

What is claimed is:

1. An improved method of perimeter blasting comprising the steps of:
  - a) selecting an emulsion blasting agent of pre-determined formulation;
  - b) conveying the emulsion blasting agent;
  - c) adding an energy-reducing agent to the emulsion blasting agent as it is being conveyed;
  - d) mixing the energy-reducing agent uniformly and homogeneously into the emulsion blasting agent;
  - e) optionally, adding gassing agents to the emulsion blasting agent to reduce its density and increase its sensitivity; and
  - f) loading the conveyed emulsion blasting agent into a perimeter borehole.
2. An improved method according to claim 1 wherein energy-reducing agent is added in an amount of from about 5% to about 22.5% by weight of the emulsion blasting agent.
3. An improved method according to claim 1 wherein the energy-reducing agent is added in an amount of from about 7.5% to about 17.5% by weight of the emulsion blasting agent.
4. An improved method according to claims 1, 2 or 3 wherein the energy reducing agent is selected from the group consisting of water and aqueous solutions.

5. An improved method according to claim 4 wherein the aqueous solutions contain solutes selected from the group consisting of inorganic oxidizer salts, urea, glycols and inorganic acids.

6. An improved method according to claim 1 wherein the emulsion blasting agent additionally comprises ammonium nitrate or ANFO prills in an amount of up to 50% by weight of the emulsion blasting agent.

7. An improved method according to claims 2 or 3 wherein the gassing agents are added in amounts sufficient to reduce the density of the emulsion blasting agent to a range of from about 0.60 g/cc to about 1.30 g/cc.

8. A method according to claim 1 wherein the energy-reducing agent forms a second discontinuous phase in the emulsion blasting agent.

9. A method according to claim 1 wherein the conveyed emulsion is pumped.

10. A method of reducing the energy of an emulsion blasting agent as it is being loaded into a borehole comprising the steps of:

- a) selecting an emulsion blasting agent of pre-determined formulation;
- b) conveying the emulsion blasting agent;
- c) adding an energy-reducing agent to the emulsion blasting agent as it is being conveyed;

d) mixing the energy-reducing agent uniformly and homogeneously into the emulsion blasting agent in an amount of from about 5% to about 22.5% by weight of the emulsion blasting agent;

e) adding gassing agents to the emulsion blasting agent to reduce its density and increase its sensitivity; and

f) loading the conveyed emulsion blasting agent into a borehole.

11. A method according to claim 10 wherein the energy-reducing agent is added in an amount of from about 7.5% to about 17.5% by weight of the emulsion blasting agent.

12. A method according to claims 10 or 11 wherein the energy reducing agent is selected from the group consisting of water and aqueous solutions.

13. A method according to claim 12 wherein the aqueous solutions contain solutes selected from the group consisting of inorganic oxidizer salts, urea, glycols and inorganic acids.

14. A method according to claims 12 or 13 wherein the gassing agents are added in amounts sufficient to reduce the density of the emulsion blasting agent to a range of from about 0.60 g/cc to about 1.30 g/cc.

15. A method according to claim 10 wherein the borehole is a perimeter borehole.

16. A method according to claim 10 wherein the energy reducing agent and gassing agents are added in varying amounts as the borehole is loaded to impart varying energies and densities to the emulsion blasting agent throughout the length of the borehole.

17. A method according to claim 10 wherein the energy-reducing agent forms a second discontinuous phase in the emulsion blasting agent.

18. A method according to claim 10 wherein the conveyed emulsion is pumped.

19. An emulsion blasting agent of reduced energy comprising:

- a) an aqueous inorganic oxidizer salt solution forming in droplet form a discontinuous phase of the emulsion blasting agent;
- b) an organic liquid fuel forming a continuous phase;
- c) a water-in-oil emulsifier;
- d) gas bubbles finely dispersed throughout the emulsion blasting agent, and
- e) energy-reducing agent added separately to and mixed uniformly and homogeneously throughout the emulsion blasting agent in an amount of from about 5% to about 22.5% by weight of the emulsion blasting agent.

20. An emulsion blasting agent according to claim 19 wherein the energy-reducing agent is added in an amount of from about 7.5% to about 17.5% by weight of the emulsion blasting agent.

21. An emulsion blasting agent according to claim 20 wherein the energy-reducing agent is selected from the group consisting of water and aqueous solutions.

22. An emulsion blasting agent according to claim 21 wherein the aqueous solutions contain solutes selected from the group consisting of inorganic oxidizer salts, urea, glycols and inorganic acids.

23. An emulsion blasting agent according to claims 20 or 21 wherein the gas bubbles are present in an amount sufficient to reduce the density of the emulsion blasting agent to a range of from about 0.60 g/cc to about 1.30 g/cc.

24. An emulsion blasting agent according to claim 19 wherein the energy-reducing agent forms a second discontinuous phase in the emulsion blasting agent.

103250-624960